

ವಿಷಯ ಸಂಕೇತ: 36

ವಿಷಯ: ಜೀವಶಾಸ್ತ್ರ

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳು: 47

ಸಮಯ: 3.15 ಗಂಟೆಗಳು

Subject-BIOLOGY

ಗರಿಷ್ಠ ಅಂಕಗಳು: 70

**General instructions:**

1. The question paper consists of four parts A, B, C and D.
2. Part-A consists of I & II and Part-D consists of V & VI.
3. All the parts are compulsory.
4. Draw diagrams wherever necessary, unlabelled diagrams or illustrations do not attract any marks.

**PART - A**

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- I. Select the correct alternative from the choices given:

15x1=15

1. The sum total of all the chemical reactions occurring in our body is  
a) Metabolism b) Reproduction c) Consciousness d) Growth
2. Artificial system of classification was given by  
a) Linnaeus b) Aristotle c) Bentham and hooker d) Engler and proutie
3. The animals which have body cavity and lined by mesoderm Such animals are known as  
a) Pseudocoelomates b) Acoelomates c) Coelomates d) Coelenterates
4. Casparian strips are found in the endodermis of  
a) Root b) Stem c) Both stem and root d) Leaf
5. The function of the Gap junction is  
a) To stop substances from leaking across the tissue b) Perform cementing substance  
c) facilitate the cells to communicate with each other d) promote cell division
6. Omnis cellula-e cellula was explained by  
a) Schleiden b) Schwann c) Rudolf Virchow d) Linnaeus
7. Elaioplasts store  
a) Oils and fats b) Proteins c) Enzymes d) Starch
8. In a polysaccharide the individual monosaccharides are linked by  
a) Peptide bond b) Hydrogen bond c) Glycosidic bond d) Phosphoester bond
9. The DNA synthesis or replication takes place during  
a) M phase b) G<sub>0</sub> phase c) S phase d) G<sub>2</sub> phase
10. The mutual attraction between water molecules is called  
a) cohesion b) Adhesion c) surface tension d) Capillarity
11. If the external solution balances the osmotic pressure of the cytoplasm it is said to be  
a) Hypertonic b) hypotonic c) Isotonic d) paratonic
12. Water and minerals are absorbed by  
a) Entire root b) Root cap c) Root hairs d) Elongation region
13. Living element of the xylem is  
a) Tracheids b) vessels c) Xylem fibres d) Xylem parenchyma
14. Volume of air in the lungs even after a forcible expiration  
a) Residual volume b) vital capacity c) Total lung capacity d) Tidal volume
15. Find out the odd one  
a) Cortisol b) Testosterone c) Insulin d) Estradiol

- II. Fill in the blanks by choosing the appropriate word/words from those given in the bracket.

5x1=5

( Diabetes mellitus, Closed type, Excretion, Cell division, Vernalisation )

16. In cockroach the fat body, nephrocytes and urecose glsnds help in .....
17. Blood vascular system of Earthworm is .....
18. Auxin controls Xylem differentiation and helps in .....
19. The plants for which flowering is either quantitatively or qualitatively depend on exposure to low temperature is termed .....
20. Prolonged hyperglycemia leads to a complex disorder called .....

**PART - B**

- III. Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable: 5x2=10
21. Name any four taxonomical aids. 2
  22. Write any two classes of pteridophytes.
  23. What is natural system of classification? Who proposed this? \
  24. What is Phyllotaxy? Name any two types of Phyllotaxy. \
  25. Mention the types of bacteria based on their shape. \
  26. Write the schematic representation of cyclic photophosphorylation.
  27. Define a) Micturition b) Glomerulonephritis
  28. Write the role of lungs and skin in the role of excretion. \

**PART - C**

- IV. Answer any FIVE of the following questions in 40-80 words each, wherever applicable: 5x3=15
29. Mention any three groups of protozoans with an example each.
  30. Write the characters of family fabaceae.
  31. Differentiate between heartwood and sapwood.
  32. Give an example for acidic, basic and neutral amino acids.
  33. Write the significance of mitosis. 3
  34. Describe the steps involved in ATP synthesis through chemiosmosis.
  35. Explain the steps involved in expiration. 3
  36. Name the hormones of Heart, kidney and Gastrointestinal tract.

**PART- D**

- V. Answer any THREE of the following questions in 200-250 words each, wherever applicable: 3x5=15
37. Assign the following animals to their respective phyla. 1
- i) Taenia ii) Ascaris iii) Leech iv) Devil fish v) starfish.
38. Draw a neat labelled diagram of alimentary canal of cockroach.
39. Describe the structure of Mitochondria with a neat labelled diagram.
40. Explain how opening and closing of stomata occurs during transpiration. 1
41. Explain the physiological role of the following elements.
- a) sulphur b) Iron c) Potassium d) Zinc e) Copper.
42. Write the schematic representation of Citric acid cycle.
- VI. Answer any TWO of the following questions in 200-250 words each, wherever applicable: 2x5=10
43. Write a note on discovery, physiological functions and agricultural/horticultural applications of ethylene.
44. Draw a neat labeled diagram of digestive system of man. 5
45. Explain the Circulatory pathway in human beings
46. a) Name the type of movement found in *Amoeba*, *Paramecium* and limbs of mammals ) (3)
- b) Name the two contractile proteins. 2 (2)
47. Draw a neat labeled diagram of sagittal section of Human brain.

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5 = 15  
2 = 10  
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